

What Is Claimed Is:

1. A method for coating at least a portion of a medical device with a coating material

comprising:

providing a medical device having a surface;

providing a slide coating head wherein the slide coating head comprises a slide surface adapted to facilitate gravitational fluid flow on the slide surface, and an inlet and an outlet orifice;

flowing a coating material into the inlet;

dispelling the coating material through the outlet orifice onto the slide surface;

flowing the coating material down the slide surface; and

depositing the coating material from the slide surface onto the surface of the medical device.

2. The method of claim 1 further comprising translating the medical device from a first position to a second position wherein the coating material is continuously deposited on the surface of the medical device.

3. The method of claim 1 further comprising rotating the medical device about a longitudinal axis wherein the coating material is continuously deposited on the surface of the medical device.

4. The method of claim 1 further comprising translating the coating head from a first position to a second position wherein the coating material is continuously deposited on the surface of the medical device.

5. The method of claim 1 further comprising controlling the flow of coating material onto the medical device.
6. The method of claim 1 wherein the coating head further comprises a first plate and second plate.
7. The method of claim 6 wherein the first plate and second plate are assembled to form the outlet orifice between the first plate and second plate.
8. The method of claim 1 wherein the coating head further comprises an upper plate and a lower plate.
9. The method of claim 1 wherein the medical device is a stent.
10. The method of claim 1 wherein the coating material comprises a therapeutic agent.
11. The method of claim 10 wherein the therapeutic agent is selected from the group consisting of pharmaceutically active compounds, proteins, oligonucleotides, DNA compacting agents, recombinant nucleic acids, gene/vector systems, and nucleic acids.
12. The method of claim 1 wherein the coating material comprises a solvent.
13. The method of claim 1 wherein the coating material comprises a polymer, sugar, wax, fat or solvent.
14. The method of claim 1 wherein the coating head can be used for curtain coating.
15. The method of claim 1 further comprising a holder that holds the medical device for coating.
16. A method for coating at least a portion of a medical device with at least two layers of coating material comprising:

providing a medical device having a surface;

providing a slide coating head, wherein the slide coating head comprises

at least a first slide surface and second slide surface, wherein the first slide surface is adjacent the second slide surface and each of the first slide surface and second slide surface is adapted to facilitate gravitational fluid flow on each of the slide surfaces, and

at least a first inlet and first outlet orifice and second inlet and second outlet orifice;

flowing a first coating material into the first inlet;

flowing a second coating material into the second inlet;

dispelling the first coating material through the first outlet orifice onto the first slide surface;

dispelling the second coating material through the second outlet orifice onto the second slide surface;

flowing the first coating material down the first slide surface;

flowing the second coating material down the second slide surface, wherein the second slide surface is oriented relative to the first slide surface such that the second coating material flows on top of the first coating material on the first slide surface forming a multi-layer coating material having a layer of second coating material above a layer of first coating material; and
depositing the multi-layer coating material onto the surface of the medical device.

17. The method of claim 16 further comprising translating the medical device from a first position to a second position wherein the multi-layer coating material is continuously deposited on the surface of the medical device.
18. The method of claim 16 further comprising rotating the medical device about a longitudinal axis wherein the multi-layer coating material is continuously deposited on the surface of the medical device.
19. The method of claim 16 further comprising translating the coating head from a first position to a second position wherein the multi-layer coating material is continuously deposited on the surface of the medical device.
20. The method of claim 16 wherein the medical device is a stent.
21. The method of claim 16 wherein at least one layer of the multi-layer coating material comprises a therapeutic agent.
22. The method of claim 16 wherein at least one layer of the multi-layer coating material comprises a polymer, sugar, wax, or fat.
23. The method of claim 16 wherein at least one layer of the multi-layer coating material further comprises a solvent.
24. The method of claim 16 wherein the slide coating head further comprises a plurality of plates.
25. The method of claim 24 wherein the plurality of plates are assembled to form a plurality of outlet orifices between the plurality of plates.
26. The method of claim 16 wherein the coating head can be used for curtain coating.

27. A method for coating at least a portion of a medical device with a coating material comprising:

providing a medical device having a surface, wherein the medical device is a stent;

providing a slide coating head wherein the slide coating head comprises a slide surface adapted to facilitate gravitational fluid flow on the slide surface, and at least one inlet and at least one outlet orifice;

flowing a coating material comprising a therapeutic agent into said at least one inlet;

dispelling the coating material through said at least one outlet orifice onto the slide surface;

flowing the coating material down the slide surface; and

depositing the coating material from the slide surface onto the surface of the medical device.

28. The method of claim 27, wherein the coating head can be used for curtain coating.

29. A method for coating at least a portion of a medical device with a coating material comprising:

providing a medical device having a surface;

providing a slotted coating head comprising an inlet and a slotted orifice;

flowing a coating material comprising a therapeutic agent into the inlet;

dispelling the coating material through the slotted orifice;

rotating the medical device; and

depositing a continuous sheet of the coating material onto the surface of the rotating medical device.